REMARKS

Claims 1-25 are pending in the application. Claims 14-25 have been withdrawn by the Examiner.

Claims 1 and 13 are presently amended. No new matter is added by the amendment as support is found at least in Examples 1 and 2 and throughout the Specification.

I. Restriction Requirement.

The Examiner has stated that newly submitted claims 18-25 are directed to an invention that is "independent or distinct" from the invention originally claimed because the originally filed claims recite vaccine as the drug. Thus, the Examiner considers that claims 18 and 25 are distinct species from the drug originally claimed and considers 18-25 as being withdrawn.

The applicant disagrees with the Examiner's characterization. First, the originally filed claims 1-12 are not directed to a vaccine, but rather are generic claims directed to a drug delivery system of any drug. Thus, the applicant submits that no election, constructive or actual, has taken place. Accordingly, the applicant request withdrawal of the restriction requirement, or, in the alternative, the applicant elects for initial prosecution the species of drug that is budesonide, with the proviso that, because there is a generic claim, should the generic claim be found to be allowable, the species restriction is withdrawn and the remaining claims are joined.

II. Rejection Under 35 U.S.C. § 102 Based Upon Rashid.

The Examiner has rejected claim 1 as being anticipated by Rashid. The Examiner contends that Rashid teaches a controlled release capsule comprising a starch capsule coated with a solution of poly vinyl chloride or a polyvinylacetate copolymer, or an ethyl cellulose solution. Rashid, according to the Examiner, further teaches that the capsule is filled with a pharmaceutical active agent and, within two to ten hours of administration, the active agent is released into the patient's gastrointestinal tract.

Rashid teaches a capsule comprising a male plug formed of a water swellable hydrogel and a female body (also referred to in Rashid as the "capsule body"). The body includes a flared mouth portion adjacent to a neck portion. The body of the capsule of Rashid may be constructed from numerous types of polymers. Alternatively, Rashid teaches that the female body may be water soluble material having a coating, such as a gelatin or starch capsule body coated with a

solution of polyvinylchloride, a polyvinylacetate copolymer, or an ethyl cellulose solution. The male plug that comprises the second portion of the controlled release capsule of Rashid is constructed of a hydrogel, but is not provided with a coating. Rashid teaches that upon oral administration in the aqueous environment of the "gastrointestinal tract," the cap on the male portion quickly dissolves, causing absorption of the water into the hydrogel male plug. It swells, and is expelled from the body of the capsule after a "predetermined time interval" (for example, two to ten hours).

Rashid does not teach or suggest each element of the invention as claimed. First, as discussed in a prior response, the controlled release capsule of Rashid is not a starch capsule; rather, it is a controlled release capsule of two distinct parts: one portion that is a hydrogel (male plug) and one portion that is not a hydrogel and can instead be a polyethylene, polypropylene, poly(methyl methacralate) polymer, polyvinylchloride, polystyrene, polyurethane, polytetrafluoroethylene, nylon, polyformaldehyde, polyester, cellulose acetate, nitro cellulose or a starch or gelatin capsule coated with poly vinyl chloride, poly vinyl acetate copolymer or an ethyl cellulose solution. Thus, Rashid does not provide a teaching of a capsule that is entirely formed of starch and that is coated throughout with a coating that covers the entire capsule and which in use dissolves such that the drug is predominantly released from the capsule in the colon and/or terminal illium. Accordingly, for at least this reason, Rashid does not anticipate the invention as recited in the claims. Reconsideration and withdrawal of the rejection is respectfully requested.

III. Rejection Under 35 U.S.C. § 102(e) Based Upon Dansereau.

The Examiner maintains the rejection of claims 1, 2, 5-7, 9, 10, and 12 under 35 U.S.C. § 102(e) as being anticipated by Dansereau. The Examiner again contends that Dansereau teaches an enteric coated oral dosage form, wherein the release of the active agent is to the lower gastrointestinal tract. The dosage form can be an enteric coated starch or gelatin capsule. The coating includes, a polymer or copolymer that dissolves at a pH of 5.5 or above, *e.g.*, Eugragit®, or a methacrylic acid polymer-copolymer.

The applicant respectfully traverses the rejection.

The disclosure of Dansereau has been discussed by applicant in the prior response, and those comments are incorporated herein by reference. Dansereau however, does not disclose all

elements of the invention and therefore does not anticipate it. Dansereau describes enteric coated starch capsules that also contain coated beads, granules or particles. The teachings of Dansereau suggest that the coating of the starch capsules alone is not sufficient to ensure that the drug is predominantly released in the colon or terminal illium as required by the invention. Compositions in which only the capsule is enteric coated are confined to those containing gelatin capsules. Thus, because Dansereau does not describe a starch capsule that is coated throughout with an enteric coating that dissolves primarily in the terminal illium or colon, Dansereau does not teach or suggest each element of the invention.

Thus, it is respectfully submitted that the claims are patentable over the disclosure of Dansereau. Reconsideration and withdrawal of the rejection is respectfully requested.

As is known to a person of ordinary skill in the art, an enteric coating does not provide colonic release, since it necessarily delivers the drug to the upper small intestine, as evidenced by the pharmacopeal standards that are designed to ensure the uniformity of all enteric coatings. As can be seen from the standards set forth by the U.S. Pharmacopoeia, enteric coated articles remain intact only for two hours at an acidic pH, and consequently demonstrate drug release after forty-five minutes at a pH of 6.8. *See*, U.S. Pharmacopoeia General Drug Release Standard (enteric coated articles) at 1795-96 (attached to the prior response). Thus, the dosage delivery device of Dansereau is different from that of the invention in that the coating is not a coating designed to dissolve in use such that the drug is released primarily in the terminal illium or colon.

IV. Rejection Under 35 U.S.C. § 103 Based Upon Davis and McNeill.

The Examiner has maintained the rejection of the claims under 35 U.S.C. § 103 based upon the combination of Davis with McNeill. The disclosures of Davis and McNeill are described in the prior response and are incorporated herein by reference.

The Examiner has failed to meet all of the elements necessary to establish a *prima facie* case of obviousness based upon a combination of Davis and McNeill. Davis, as conceded by the Examiner does not teach or suggest use of a starch capsule. McNeill does not remedy the deficiency as it teaches only a device formed from at least two independent penetrating pieces, where one portion of the entire interpenetrating device is a gelatin or a starch capsule having a specific coating. The other portion of the device is a hydrogel. Thus, there is no teaching in

McNeill that the entire device bears a coating, or that the entire device is made of a starch capsule that is covered with a coating. Further, the Examiner has failed to demonstrate that there is a motivation or provocation in the prior art references that would have caused a person of skill to make the suggested combination. The Examiner contends that McNeill establishes an art recognized class or category of capsules that encompasses a starch capsule and a gelatin capsule. This interpretation of McNeill is incorrect. Rather, a plain reading of the text discloses that McNeill teaches only that starch and gelatin capsules may be preferred by the inventors of the McNeill device for use in that very specific two part McNeill delivery device. Such teaching is not evidence of the art-recognized "substantial equivalents" of the two differing capsules. Accordingly, this disclosure cannot be relied upon by the Examiner as motivation for the combination of Davis and McNeill.

To the contrary, a person of skill in the art would not have been motivated to make the combination of Davis and McNeill. The device taught in McNeill includes two parts, only of which may be made of starch. The other is a hydrogel. This difference creates a drug delivery mechanism that is different from that of the invention as claimed. The McNeill delay relies on the architecture of the delivery device (one portion of which is a swellable material and "pops off" upon contact with water). The invention relies on a starch capsule provided with a coating that coats the entire surface of the capsule and which, in use, dissolves such that the drug is released primarily in the colon or terminal illum. A person of skill in the art would not have been motivated to substitute the female piece starch capsule of McNeill in the composition of Davis, as there is no teaching or suggestion in either of the references that use of a starch capsule would be suitable for use as the Davis dosage form. In addition, substitution of the open ended female piece of McNeill would render the Davis device ineffective, for the bisacodyl compound would leak out prior to the target site, hindering the Davis objective of maximal laxation with minimal absorption. Given such deficiencies, a person of skill in the art would have had no reasonable expectation that the combination would be successful.

In view of the foregoing, it is respectfully requested that the Examiner reconsider and withdraw the rejection.

V. Rejection Under 35 U.S.C. § 103 Based Upon the Combination of Davis Taken in View of Digenis.

The Examiner has maintained the rejection of claims 1-13 under 35 U.S.C. § 103(a) as being unpatentable over the disclosure of Davis combined with Digenis.

The applicant traverses the rejection.

Both Davis and Digenis have been described in a prior Office Action and that description is relied upon and incorporated herein by reference. As previously stated, the Examiner has failed to establish a *prima facie* case of obviousness based upon the combination of Davis and Digenis. Davis is concerned with the rapid and targeted delivery of a bisacodyl compound in order to optimize maximal laxation and reduce absorption, thereby mitigating secondary diarrhea. A person of skill in the art would not have been motivated to combine the teachings of Davis with those of Digenis, which are directed to a step-wise delivery of three or more drugs over a period of time from seconds to hours. Given the disparate objectives of each of these references, a person of skill in the art would not have made the combination as suggested by the Examiner, nor would he have expected that combination would give rise to a successful drug delivery capsule, as is presently claimed.

Accordingly, for at least these reasons, it is respectfully requested that the Examiner reconsider and withdraw the rejection under 35 U.S.C. § 103.

VI. Rejection Under 35 U.S.C. § 103(a) as Being Unpatentable Over Rashid in View of Dansereau.

The Examiner has rejected claims 2-10 and 12 under 35 U.S.C. § 103(a) as being unpatentable over Rashid in view of Dansereau. The Examiner argues that Rashid teaches all but "claimed coating materials." To remedy this deficiency the Examiner contends that Dansereau teaches an enteric-coated oral dosage form, wherein the release of the active agent is to the lower gastrointestinal tract.

The applicant respectfully traverses the rejection.

The disclosures of Rashid and Dansereau are discussed in a prior filed response and are relied upon and incorporated herein by reference.

Based upon the combination of Rashid and Dansereau, the Examiner has failed to establish a *prima facie* case of obviousness. First, the combination of Rashid and Dansereau does not teach or suggest all elements of the invention. As discussed above, neither discloses a

coating such that the drug is predominantly released from the capsule in the colon and/or terminal ileum. Specifically, the general disclosure of Dansereau of an enteric coating does not necessarily imply or require that the coating is formulated for delivery to the colon or terminal ileum. Moreover, Rashid does not focus or narrow this lack of specificity as, for as discussed previously, it discloses only a drug delivery system that is capable of delivering to the "gastrointestinal tract," which in itself is not indicative of a delivery that is targeted to the colon and/or terminal ileum.

Additionally, a person of skill in the art would not have been motivated to make the combination of Rashid and Dansereau. Combination of the open-ended starch female body of Rashid with the device of Dansereau would negate the objective of Dansereau, to avoid exposure of the tissues of the upper gastrointestinal tract to risedronat, for the open-ended capsule would prematurely release the drug. For at least these reasons, therefore, there was no motivation to combine present in the art, and no reasonable expectation of success would have been present in the mind of a person of skill in the art at the time the application was filed.

Accordingly, it is respectfully requested that the Examiner reconsider and withdraw the rejection based upon the combination of Rashid and Dansereau.

CONCLUSION

In view of the foregoing, it is respectfully submitted that pending claims 1-25 are distinguished over the cited prior art. Moreover, it is submitted that, since the generic claims are allowable, claims 14-25 should be rejoined and allowed at the earliest opportunity.

Respectfully submitted,

PETER WATTS

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Enclosures: Request for Continued Examination